

Appl. No. 10/784,842  
Amdt. Dated 30-Dec-2005  
Supplemental Preliminary Amendment  
Attorney Docket No. : 6037-006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-87 (Cancelled)

88. (New) An antioxidant composition comprising casein phosphopeptide wherein the composition is operable to inhibit oxidation of lipids in emulsion.

89. (New) The composition of Claim 88, further comprising at least one sulfated polysaccharide.

90. (New) The sulfated polysaccharide of Claim 89, wherein the sulfated polysaccharide is selected from the group consisting of iota-carrageenan, kappa-carrageenan, lambda-carrageenan, chondroitin, heparin, dextran, and cyclodextrins, and combinations thereof.

91. (New) The composition of Claim 88, further comprising a medium-chain triglyceride.

92. (New) The medium-chain triglyceride of Claim 91, wherein the medium-chain triglyceride is selected from the group consisting of: caproic (C:6.0), caprylic (C:8.0), and capric (C:10.0) triglycerides, and any combinations thereof.

93. (New) The composition of Claim 88, further comprising at least one non-reducing sugar or sugar polyol.

94. (New) The composition of Claim 88, wherein the casein phosphopeptide is selected from the group consisting of alpha-casein, beta-casein, kappa-casein, fragments thereof, and any combinations thereof.

95. (New) The composition of Claim 88, wherein the casein phosphopeptide comprises a caprine casein phosphopeptide.

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96. (New) The composition of Claim 88, further comprising at least one ingredient selected from the group consisting of alpha, beta, gamma or delta tocopherols, alpha, beta, gamma or delta tocotrienols, tocopherols, tocotrienols, beta-carotene, phospholipids, chitosan and combinations thereof.

97. (New) The composition of Claim 88, further comprising at least one phospholipid selected from the group consisting of egg yolk phospholipids, soybean phospholipids, and combinations thereof.

98. (New) The composition of Claim 88, further comprising at least one ingredient selected from the group consisting of pH modifiers, chelating agents, polyphenols, modified starches, glycerides, fruit concentrate sweeteners, cocoa powder, sucralose, and oil-soluble flavors, vitamins, nutraceutical actives, and pharmaceutical actives.

99. (New) The pH modifiers of Claim 98, wherein the pH modifiers are selected from the group consisting of citric acid, ascorbic acid, gluconic acid, and combinations thereof.

100. (New) The chelating agents of Claim 98, wherein the chelating agents comprise citric acid.

101. (New) The polyphenols of Claim 98, wherein the polyphenols are derived from the fruit of *Solanum melongena*.

102. (New) The emulsion of Claim 88, wherein the emulsion is selected from the group consisting of water-in-oil microemulsion, water-in-oil nanoemulsion, oil-in-water microemulsion, and oil-in-water nanoemulsion.

103. (New) The casein phosphopeptide of Claim 88, wherein the casein phosphopeptide comprises a trypsin-digested casein.

104. (New) The trypsin-digested casein of Claim 103, wherein the trypsin-digested casein is selected from the group consisting of caprine casein characterized by a content of alpha.sub.s2.-casein greater than 15 percent and beta-casein greater than 15 percent of the total casein.

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105. (New) An antioxidant composition comprising at least one casein fragment, wherein the casein fragment is at least one of a phosphopeptide, a glycopeptide, a glyceride and combinations thereof, operable to inhibit lipid oxidation.

106. (New) The casein fragment of Claim 105, wherein the casein fragment is characterized by a content of  $\alpha$ -sub.s2.-casein greater than 15 percent of total casein and medium-chain triglycerides.

107. (New) The phosphopeptide of Claim 105, wherein the phosphopeptide comprises a caseinophosphopeptide.

108. (New) The caseinophosphopeptide of Claim 107, wherein the caseinophosphopeptide comprises a caprine caseinophosphopeptide.

109. (New) The composition of Claim 105, further comprising at least one ingredient selected from the group consisting of  $\alpha$ ,  $\beta$ ,  $\gamma$  or  $\delta$  tocopherols,  $\alpha$ ,  $\beta$ ,  $\gamma$  or  $\delta$  tocotrienols, tocopherols, tocotrienols,  $\beta$ -carotene, phospholipids, chitosan and combinations thereof.

110. (New) The composition of Claim 105, further comprising at least one phospholipid selected from the group consisting of egg yolk phospholipids, soybean phospholipids, and combinations thereof.

111. (New) The composition of Claim 105, further comprising at least one ingredient selected from the group consisting of pH modifiers, chelating agents, polyphenols, modified starches, glycerides, fruit concentrate sweeteners, cocoa powder, sucralose, and oil-soluble flavors, vitamins, nutraceutical actives, and pharmaceutical actives.

112. (New) The composition of Claim 105, further comprising a polyphenol selected from the group consisting of *Solanum melongena* polyphenols.

113. (New) The composition of Claim 105, further comprising non-reducing sugars and sugar polyols.

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114. (New) The composition of Claim 105, further comprising pH modifiers wherein the acidic environment ranges from pH 2.0 to 5.7.

115. (New) The composition of Claim 105, further comprising sulfated polysaccharides selected from the group consisting of carrageenans, chondroitin, heparin, dextran, cyclodextrins and combinations thereof.

116. (New) The composition of Claim 105, wherein the glyceride is selected from the group consisting of enzymatically modified oils, fats, and fatty acids of mono-, di-, and tri-glycerides; lipolyzed modified oils, fats, and fatty acids of mono-, di-, and tri-glycerides; and combinations thereof.

117. (New) The composition of Claim 111, wherein the fruit concentrate sweetener comprises a blend of hydrolyzed starch having a dextrose equivalent of up to approximately 25; fruit juice or fruit syrup concentrate of at least approximately 40% soluble solids; and approximately 0% insoluble solids, wherein the starch, juice or concentrate and solids form a liquor having a dry weight composition of approximately 40 to approximately 65% complex carbohydrates, approximately 35 to approximately 55% simple sugars from the fruit juice or fruit syrup concentrate, and approximately 0 to approximately 5% nutritional components occurring naturally in the fruit juice or fruit syrup concentrate.

118. (New) A product comprising at least one casein phosphopeptide, wherein the casein phosphopeptide imparts at least one function selected from the group consisting of inhibiting oxidation of oil-in-water or water-in-oil emulsions, preventing bone mineral loss in a mammal, and preventing hypercholesterolemia in a mammal.

119. (New) The product of Claim 118, wherein the product is selected from the group consisting of cocoa products, hypercholesterolemia preventatives, bone mineral loss preventatives, Omega-3-rich oil products, products having oil-soluble flavors, products having oil-soluble vitamins, nutraceuticals, or pharmaceuticals, protein rich products having reduced protein settling and sedimentation, transparent beverages, products containing vegetable oils including rice bran oil, flax, chia, hemp, castor, soybean, lesquerella, dehydrated castor oil, rich in Omega-3, or conjugated linoleic acid,

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animal oils including fish, egg, poultry, and beef oils rich in Omega-3, or conjugated  
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